

IN THE CLAIMS

Please amend the claims as follows:

1. (Previously Presented) A method of grinding a workpiece with a grinding wheel having a circumferential surface by way of a relative movement between said grinding wheel rotatably supported on a wheel slide and said workpiece supported by a work support device, a the method comprising:

cutting off an air layer flowing on the circumferential surface by blowing a hydraulic jet substantially parallel thereto at a position upstream of a grinding point with respect to direction of rotation of said grinding wheel; and

collecting a mist of coolant blown by said hydraulic jet through a recovering port mounted on a wheel guard covering a part of said grinding wheel.

2. (Previously Presented) The grinding method according to Claim 1, further comprising:

absorbing said mist of said coolant from said recovering port by an absorbing device; separating said mist of coolant by a separator inserted between said recovering port and said absorbing device; and

discharging a hydraulic coolant from a discharge port mounted on a lower portion of said wheel guard.

3. (Previously Presented) The grinding method according to Claim 2, wherein said recovering port is formed on an upper back portion of said wheel guard.

4. (Previously Presented) The grinding method according to Claim 2, wherein said recovering port is mounted on said wheel guard at a location substantially diametrically opposite to a location where said grinding wheel faces said hydraulic jet.

5. (Previously Presented) A machine for grinding a workpiece with a grinding wheel having a circumferential surface by way of a relative movement between said grinding wheel rotatably supported on a wheel slide and said workpiece supported by a work support device, the grinding machine comprising:

a nozzle mounted on a wheel guard covering a part of said grinding wheel and configured to blow a hydraulic jet substantially parallel to the circumferential surface at a position upstream of a grinding point with respect to a direction of rotation of said grinding wheel to cut off an air layer flowing on said circumferential surface; and

a recovering port mounted on said wheel guard configured to collect a mist of coolant blown by said hydraulic jet.

6. (Previously Presented) The grinding machine according to Claim 5, further comprising:

an absorbing device connected to said recovering port;

a separator connected between said recovering port and said absorbing device configured to separate said mist of said coolant from said hydraulic jet; and

a discharge port mounted on a lower portion of said wheel guard configured to discharge a hydraulic coolant from said wheel guard, wherein said hydraulic jet is an air jet.

7. (Previously Presented) The grinding machine according to Claim 6, wherein said recovering port is formed on an upper back portion of said wheel guard.

8. (Previously Presented) The grinding machine according to Claim 6, wherein said recovering port is mounted on said wheel guard at a location substantially diametrically opposite to a location where said grinding wheel faces said nozzle.

9. (Previously Presented) The grinding machine according to Claim 5, further comprising:

a baffle plate mounted on said wheel guard facing said grinding wheel and separated therefrom by a small clearance at a position upstream of position of said hydraulic jet direction of said grinding wheel.

10. (Previously Presented) The grinding machine according to Claim 9, wherein said wheel guard comprises a sealed construction, and only a front portion of said grinding wheel around said grinding point projects from said wheel guard through a slit formed in a front wall thereof.

11. (Previously Presented) The grinding machine according to Claim 10, wherein said wheel guard comprises a guard body configured to shield a side surface of said grinding wheel of facing said wheel slide and a cover shielding an opened portion of said grinding wheel on the opposite side surface, and said slit is formed by a cooperation of a front wall of said guard body and a front wall of said cover when said cover is pivoted to close said opened portion.

12. (Previously Presented) The grinding machine according to Claim 5, further comprising a unitary construction coolant supplying device, comprising:

a coolant supplying portion comprising a coolant nozzle configured to discharge said coolant to at least one of said grinding point and an outer peripheral surface of said workpiece, and a coolant introducing path configured to introduce said coolant to said coolant nozzle;

a hydraulic jet supplying portion comprising the nozzle, and a path configured to introduce said hydraulic jet to said nozzle; and

a hydraulic jet recovering portion comprising a recovering port member facing said nozzle, and a hydraulic jet discharging path configured to lead said hydraulic jet and said mist of coolant outside.

13. (Previously Presented) A grinding machine according to Claim 5, further comprising an ecology grinding equipment, comprising:

said coolant nozzle directly facing said workpiece, the coolant nozzle being configured to supply a small amount of said coolant to cool said workpiece;

a compressed air nozzle opened to said circumferential surface of said grinding wheel at the upstream position; and

a another nozzle mounted on said compressed air nozzle and connected to a lubrication tank, the another nozzle being configured to deliver lubrication oil to said compressed air nozzle in order to lubricate said grinding wheel at said grinding point.

14.-16. (Canceled)